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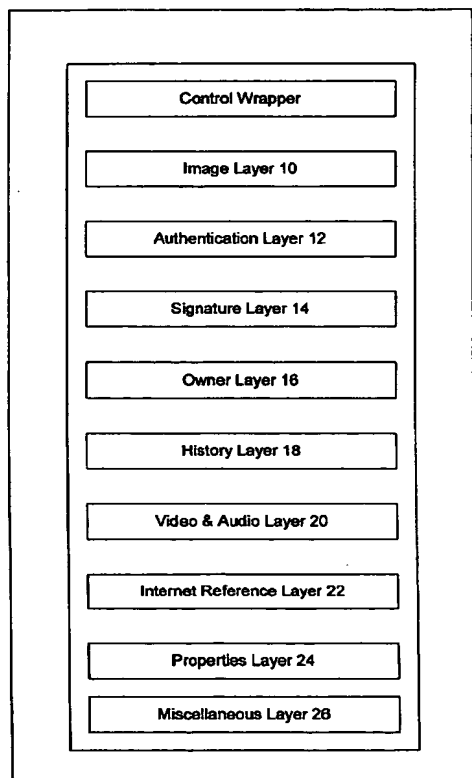
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[Continued on next page]

(54) Title: A TRADING SYSTEM AND CARD



(57) Abstract: A trading system, including a computer device having a first communications component for connecting to removable memory media, and a second communications component for connecting to a communications network; and a trading card device for connection to said first communication component. The trading card device including a plurality of components representing a subject, said components including an image component, a signature component and/or a video and audio component, said components having respective properties defining conditions relating to use of said components. The trading system facilitates trading of said components over said communication network.

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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## A TRADING SYSTEM AND CARD

### 5 Field of the Invention

The present invention relates to a trading system and card, in particular to a system that allows digital cards, and parts thereof to be traded, eg swapped, by collectors.

### 10 Background of the Invention

Player cards (eg baseball, soccer) and game cards (eg Pokemon) are collected and swapped in millions by people across the globe. Typically, such cards are paper-based and are therefore limited by the normal constraints of paper-based trading eg inefficient  
15 distribution, limited content and susceptibility to forgery.

Current paper player and swap cards are very popular, and have a large number of participants from around the globe. For example in the US people of all ages collect and swap various types of cards e.g. baseball cards, and in Japan younger age groups,  
20 particularly boys, collect and swap cards like Pokemon.

Up to now these cards have been typically paper-based. These paper cards can be lost or forged and they have limited in distribution potential due to their physical nature. These paper cards do not typically have proof ownership integrated into their format and,  
25 furthermore, they typically lack multi-media capabilities or attachments for communicating with other devices.

A physical swap card is a flat 'one dimensional' object that enables no additional enhancement of the ownership experience.

30

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Cards referred to as 'player cards' and 'swap cards' and 'game cards' are all instances of physical cards which can be collected swapped and traded by 'Collectors'.

It is desired to provide a trading system for such cards that obviates the above difficulties  
5 and enhances a collector's experience, or at least provides a useful alternative.

#### Summary of the Invention

In accordance with the present invention there is provided a trading system, including:

10 a computer device having a first communications component for connecting to removable memory media, and a second communications component for connecting to a communications network; and

a trading card device for connection to said first communication component, said trading card device including a plurality of components representing a subject, said  
15 components including an image component, a signature component and/or a video and audio component, said components having respective properties defining conditions relating to use of said components;

whereby said trading system facilitates trading of said components over said communication network.

20

In accordance with the present invention there is also provided a trading system, including:

a card player having a data processor and memory, and a communication component for connecting to removable memory media; and

a trading card device for connection to said first communication component, said  
25 trading card device including a plurality of components representing a subject, said components including an image component, a signature component and/or a video and audio component, said components having respective properties defining conditions relating to use of said components;

whereby said trading system facilitates trading of said components.

30

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In accordance with the present invention there is also provided a trading card device for connection to a first communication component, said trading card device including a plurality of components representing a subject, said components including an image component, a signature component and/or a video and audio component, said components  
5 having respective properties defining conditions relating to use of said components.

In accordance with the present invention there is also provided a trading card, stored on computer readable memory, representing a subject and including a plurality of layers, such as an image layer, signature layer and/or a video and audio layer, said layers having  
10 respective properties defining trading conditions relating to said trading card.

In accordance with the present invention there is also provided a trading card, stored on computer readable memory, representing a subject and including a plurality of layers, wherein each layer is substantially described by associated attributes and operations, said  
15 layers having respective properties defining trading conditions relating to said trading card.

Advantageously, the system may enable collectors of all forms of cards to collect and swap digital versions of such cards with security and validation of ownership and of associated card attachments, eg player signatures.  
20

The trading card may be a digital object capable of being manipulated by a computer system, and in particular exchanged in a secure manner across a communication system such as the Internet.

25 The system may include a plurality of the trading cards, and a card player, for viewing and manipulating the cards. The card player may be implemented in hardware and the system may include a web site for obtaining and trading the cards.

The trading card may contain data and meta-data identifying and classifying an  
30 information set representing a subject. This information may comprise a series of layers containing meta-data about the card, information which itself can contain images,

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signatures, video, audio, up-to-date statistics and history for example. This object, in its dynamic form, is what the card player manipulates in order to execute and display components of the card to a collector.

5 Brief Description of Drawings

Figure 1 shows the functional layers of a card;

Figure 2 is a block diagram of the trading system connected to a network;

Figure 3 is a block diagram of the trading system;

10 Figure 4 is a functional diagram of a card player;

Figure 5 is a diagram of a cardboy;

Figure 6 is a functional diagram of the signature layer of the card; and

Figure 7 is a functional diagram of the video and audio layer of the card.

15 Detailed Description of Preferred Embodiments of the Invention

A trading system, as shown in the Figures, allows digital cards representing different subjects, such as players of a team or characters, to be traded by collectors of the cards. The trading may involve monetary exchanges or simple swapping of cards or card  
20 components. The components of the card are activated and used by a card player that may be implemented in a number of different forms. For example, the card player may simply be executed on a standard computer system or may comprise part of a dedicated hardware unit having circuits designed specifically to connect to cards for activation and storage of card components. Trading of cards and components may occur over a communications  
25 network connected to different computer systems, such as the Internet, or may simply involve storage of components of a handheld card player for transmission to or storage directly onto a storage media of another collector. The cards themselves are instances of a class of objects for digital swap cards, which again can also be implemented in a number of different forms. A card may be stored in a secure storage medium, such as a smartcard  
30 or a flashcard, such as the Sony Memory Stick™. Alternatively, the card objects may simply constitute encapsulated code tradeable only on the Internet.

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A digital trading or swap card 1, shown in Figure 1, represents a class of data objects. The digital card 1 is described by attributes and operations that form functional layers for a card and include an image layer 10; an authentication layer 12; a signature layer 14; an ownership layer 16; a history layer 18; a video and audio layer 20; an Internet reference layer 22; a properties layer 24 and miscellaneous information layer 26.

The attributes and operations for the image layer 10 include digital images for depicting a relevant person or object and operations to manage those images. The image layer's attributes include meta-descriptions for each image. The meta-description includes description tags and image parameter tags. An image can therefore be identified by an associated meta-description of itself.

The authentication layers 12 includes attributes and operations to manage authentication information associated with verifying that a card 1 is genuine. Accordingly, a genuine card 1 is associated with a current owner's digital identity. Each card is uniquely identified and associated with a unique owner identity. The operations associated with this layer use digital security and digital watermarking technology. The authentication layer 12 includes attributes and operations to facilitate the trusted swapping of cards 1. The operations associated with the authentication layer 12 use existing software technology and protocols for the exchange of trusted objects.

The signature layer 14 is described by attributes and operations for receiving, verifying and managing signatures and other marks that can be associated with a card 1. All signatures are managed by the signature layer 14 as unique digital objects together with all necessary information to assist in applying and incorporating and trading signatures. The signature layer 14 also includes attributes and operations for making the signature unique to one owner of a card and not available for swapping; and/or for invoking a swapping transaction fee for a signature; and/or deleting the signature after a predetermined period of ownership of the signature has expired.

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The owner layer 16 is described by attributes and operations that managing the card owner's ability to interact with the card 1 and other cards 1. The attributes for the owner layer 16 include various aspects of ownership information and characteristics of a relevant collector. For example personal information of a collector is required to swap cards or to  
5 pay for upgraded information like new a signature. Generally, this information will be entered into the home page for the digital swap card on the Web, however, a collector may wish for some information to be associated with just one particular card and this is the key purpose of this Layer. Information will also be able to be entered and updated on PDAs and other mobile devices, and validated later when on-line if necessary.

10

The history layer 18 is described by attributes and operations information maintaining a verifiable and authenticated history of a card 1 to be maintained. All cards 1 are authenticated and their respective are owners identifiable, a cards 1 authentic history can be passed with the cards 1 as they swap ownership.

15

The video and audio layer 20 is described by attributes and operations to manage and control media files and information associated therewith for a card 1. The information required to manage the media files may be technical, commercial or legal in nature. The video and audio layer 20 facilitates downloading and storing of media, or redirection to  
20 media sites and footage, and includes attributes such as charge rates per view, expiry dates, swap fees etc.

The Internet reference layer 22 is described by attributes and operations that includes functional information that facilitates links with the Internet that may be relevant to a card  
25 1 and collector. These could include rules relating to times and dates to check various web sites and triggers for alerting collectors to check various Internet activities relating to a particular card 1.

Links and information stored in this Internet reference layer 22 could include references to  
30 sports pages, game pages, fan clubs, telephone numbers and Internet auctions.



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The properties layer 24 is described by attributes and operations pertaining to meta-data which is not contained in other layers of a card 1. For example, origination dates of various components, and version numbers of the software that created various parts of the card 1. It could also contain links to upgrade system components that the card interfaces with.

The miscellaneous layer 26 is described by attributes and operations for information not yet fitting other layers of the card 1. The attributes and operations associated with this layer are reserved for new features of a card 1.

10

All layers 10 to 26 are encrypted by the system.

A card 1 can be manipulated by a card player that is hosted on any one of a range of devices 28 including desktop personal computers (PCs), laptops, note pads, personal digital assistants (PDAs) and mobile telephones. Cards 1 can also be hosted on dedicated purpose built devices.

Collectors interact over a communications network 30 using their respective devices 28 and associated standard communications protocols, as shown in Figure 2. The communications network 30 includes the Internet 32, wireless telecommunications networks 34 and/or local area networks (not shown) each being connected by an appropriate ISP gateway.

The digital swap card web site is generated by a computer system 36 that includes a web server 38, a transaction engine 40, a database server 42 and a database 44 as shown in Figure 3. The web server 38 is software stored on the computer system 36 that allows the computer system 36 to serve static and dynamic web pages. The web server 38 allows collectors to access web pages created and stored on the computer system 36 via their respective devices 28. The web pages published by the web server 38 are dynamic and are populated by data provided by the transaction engine 40 of the computer system 36.

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The database server 42 is software stored on the computer system 36 that allows the computer system 36 to manage the database 44. The database server 42 reads, writes, maintains and secures data on the database 44. The database server 42 maintains data in the database for all registered collectors. The database 44 is maintained preferably on hard  
5 disk storage of the computer system 36.

The transaction engine 40 is software that processes data received by the web server 40 from collectors via their devices 28 and is able to retrieve and store data on the database 44 via the database server 42. The transaction engine 40 communicates with the web server  
10 38 and database server 42 to execute data transactions and thereby provides dynamic content for the web pages provided by the web server 38.

A card player 46 provides the means through which a collector can register 48, collect and store cards 50, validate collectors 52, swap cards 54, give cards 56, annotate objects on a  
15 card 58, play cards 60, search 62, network 64 and otherwise manipulate cards 1. In one example of the invention, the card player 46 is a software viewer analogous to the Windows "Media Player" or "Real Player". The card player 46 also includes functions that allow a collector to communicate with other collectors and vendors of card-related information and goods via their device 28. Further, the card player 46 allows a collector to  
20 interact with the Internet 30 via the relevant device's 28 web browser.

A card player 46 includes a search engine 62 for locating owners of cards, facilitates swapping of cards and monetary transactions that arise in that regard e.g. when buying a player's signature and attaching it to a card 1.

25

A collector registers their details at the digital swap cards Internet home page via the registration function 48 on their card player 46. A card player 46 facilitates the registration and verification of a collector by forwarding the collector's details with the digital swap cards web site. Further, the card player 46 is able to effect transfer of available personal  
30 and ownership details, with a card owner's consent. Upon execution of the registration function 48, the card player 46 directs a collector to the Digital Swap Card homepage

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where various 'normal' enrollment and registration processes would be carried out if the Collector had not yet registered. This registration procedure includes recordal of information regarding special interests and notifications for a collector to observe from time to time.

5

The registration information of a collector and any interaction rules are maintained by the system via the digital swap card web page and also transmitted and coordinated with mobile implementations of the card player 46 eg on PDAs.

- 10 A collector can download software for a card player 46 from the digital swap cards Internet site on to whatever device 28 the user wishes.

A collector's card player 46 is adapted to store the collector's cards 1 on the device 28 on which it is being hosted, whether on their PC or handheld device or other mobile device.

15

- The Storing function is a library function with various commonly accepted aids for cataloguing and retrieval. In preferred embodiments of the invention, mobile devices 28 are able to store cards 1 for a collector in a repository at the digital swap card web site if on-line storage on the device 28 itself was not sufficient. This Web-based storage functionality would be linked or integrated with services like the prior art XDRIVE.com or MYSPACE.com and would be convenient and transparent.
- 20

- A card player 28 is able to validate a potential card seller/swapper's identity by insuring that the potential card swapper's identification details conform with predetermined security and authentication rules. This operation can be executed automatically by the card player 46 before a transaction occurs or executed manually by a collector at any stage. In one example of the invention, a collector's card player 46 communicates with a potential card seller/swapper's card player 46 via the communications network 30 and examines the details associated with the owner layer 16 of the card 1 being sold/swapped. The card player 46 then communicates with an archive of cards maintained by the digital swap card web site and examines the details associated with the owner layer 16 of the archived card
- 25
- 30

- 10 -

1. If these details concur then the collector is assured that the potential seller/swapper is a valid owner of the card 1.

5 The validate function 52 is able to verify and authenticate cards 1 under consideration for swapping and/or sale by the other collectors. In one example of the invention, a collector's card player communicates with a potential card seller/swapper's card player 46 via the communications network 30 and examines the details associated with the authentication layer 12 of the card 1 being sold/swapped. The card player 46 then communicates with the archive of cards maintained by the digital swap card web site and examines the details  
10 associated with the authentication layer 12 of the archived card 1. If these details concur then the collector is assured that the card 1 being sold/swapped, or part thereof, is authentic. This would confirm the authenticity of all card information and all associated information that may be part of the transaction e.g. player signatures, video and media, and card history.

15

The card player 46 includes a trade function 54. This function automatically executes the above-mentioned validate process in order to validate a potential trading partner's identification details and confirms that the objects of the card being traded are authentic. The trade 54 function also manages any financial validations and checks necessary for  
20 secure trading, for example the card player insures that the credit card details of the seller/swapper stored at the digital swap card web site are valid. Once these steps have been executed, the card player executes a formal protocol for the swapping of the swap cards 1.

25 A record of each transaction is maintained at the digital swap card web site evidencing each transaction. The trade function 54 also changes the details associated with the ownership layer 16 of the card to reflect the new owner of the card 1 and the details associated with the ownership layer 16 at the archive at the digital swap card web site.

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The trade function 54 allows a collector to trade any part of a card 1. For example, the card player 46 determines which parts of a card 1 are available for trading and asks a collector to select which of these he/she is interested in trading.

5 The implementation of the above-mentioned functions will vary according to the nature device 28 on which the card player 46 is to be installed. That is for a mobile phone, or a PDA, or a dedicated CardBoy, or a desktop computer, the technology implementation would be different. But the functionality would remain the same and be implemented in technologies which are generally available.

10

A Collector using this a card player 46 on a PDA, desktop, or CardBoy or any other Digital Swap Card compatible device, will either push physical buttons, or touch a software buttons to effect the above mentioned functions. Transactions only occur after the security and authentication checks have been implemented.

15

The card player will identify the following information for a collector as the trading steps of the trading function are executed:

- (i) the card to be swapped;
- 20 (ii) the card required, and the current owner;
- (iii) nominated parts of the other Card they wish to purchase;
- (iv) Optionally Validated the other Collector and Card;
- (v) Decided a price, which may be zero;
- (vi) the payment method, if applicable; and
- 25 (vii) Confirmed with the swapping Collector that they wish to participate.

The card player includes a "give" function 56 which, upon execution, initiates an exchange of cards 1 between collectors in accordance with the details determined during the operations of the trade function 54. The give function 56 is the final action that effects  
30 swapping of cards 1, or parts of thereof (ie signatures, video or links), between collectors. A predetermined swapping protocol is used to effect a trade of trusted cards 1. If a give

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transaction fails for any reason, such as a network failure, the predetermined swapping protocol restores the status of the collectors involved in the transaction to the state that they were in before the transaction was initiated. A Swap Card Exchange Protocol (SCXP) is used by the card players to effect this transaction.

5

A payment function (not shown) on a card player 46 allows a collector to amend payment preferences set on their personal page at the digital swap card web site.

10 A card player 46 includes an annotate function 58 which contains processes for reading, writing and editing the details associated with the history layer 18 of a card 1. These details include ownership notes, general notes and comments attaching to many information elements in the Digital Swap Card e.g. video, sound, signatures.

15 The annotate function 58 allows the current owner of the card to mark and annotate the exchangeable components of a card 1. Further, the annotate function 58 allows a collector to nominate who is able to view the annotations pertaining to objects of a card 1. A default mode can be set within a card player and can be private, group or global.

20 By selecting the Private option, no other collector can access annotated information for that card from the Internet. Further, when this option is selected, the annotated information is not to be transferred with the card between collectors. By selecting the Group option, annotated information pertaining to a card is open to external viewing by a group or groups of collectors nominated by the owner of the card 1. By selecting the Global option, any collector who is connected to the Internet can view the annotations pertaining to the  
25 objects of a card 1.

These sharing properties are applicable to all details associated with the layers of a digital swap card 1 and are included with the details associated with the properties layer 24 of a card 1. The various defaults mentioned here and mentioned in other sections can be set on-  
30 line using the card player 46 or at the collector's personal profile at the digital swap card web site.

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The card player 46 includes a play function 60 that enables a collector to view and enjoy a card 1. The card player 46 allows a collector to view images associated with the image layer 10, view videos associated with the video and audio layer 20, listen to audio files associated with the video and audio layer 20, view and use links to related Internet sites and other data. The play function 60 includes a function to execute card functions in a preset sequence. The sequence can be set as default by the collector or set before each viewing session. The card player 46 includes the commonly available controls and capabilities for manipulating audio and video files.

10

The card player 46 includes a search function 62. The search function 62 is used by a collector to find instances of a particular card or instances of objects that are available for a particular card. Searching is made possible over the communications network 30.

15 The search function 62 operates in an analogous manner to the search functions available on a "Real Player" and includes a search for cards 1, with nominated constraints and parameters. The search function includes pre-set selection mechanisms which set limits on a search. For example, only cards whose respective collectors live in Colorado or are younger than 15 years old will be listed in the results of the search if such search options are selected.

20

In one example of the invention the communications network 30 linking the devices 28 is a peer-to-peer infrared link. In another example of the invention the communications network 30 linking the devices 28 is a wireless network.

25

In yet another example of the invention card players include software facilitating instant messaging and 'buddy links' across the communications network 30. Accordingly, collectors are able to rapidly exchange information and cards using instant messaging technology.

30

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Card players 46 include a function that facilitates reporting on the details associated with the properties layer 24 of a Digital Swap Card 1. These details include formatting and meta-data descriptions. It also includes links and functions to upgrade the Card Player 46 and to add various new plug-ins and software components.

5

In one example of the invention a dedicated, purpose built, cardboy 66 hosts a card player, as shown in Figure 5. The cardboy 66 is a hardware card player controller.

A cardboy 66 can either be purchased with a card player installed or a collector can down  
10 load a copy of a card player from the digital swap cards web site for installation thereon. A cardboy 66 includes a web browser that serves as an interface between a collector and the Internet and other collectors. In one example of the invention the cardboy 66 includes a mobile communications means 68 for connection to the Internet through the communications network 30.

15

In another example of the invention, the communications means 68 is an infrared communications means that facilitates communication between other infrared enabled devices 28 with card players installed thereon. Such communication would occur over relatively short distances in situations where the collectors are interacting via their  
20 respective cardboys 66 face to face.

The cardboy 66 has pre-loaded software, and some function buttons 70 for executing the above-mentioned functions of a card player. The cardboy 66 also includes a display 72 for viewing the images generated by a card player and speakers (not shown) for listening to  
25 the audio data generated by a card player.

The cardboy 66 is battery powered, with sufficient in-built memory to hold a collection of Digital Swap Cards 1.

30 Before a collector can commence trading with his/her cardboy46, he/she must first access the Digital Swap Card Web Site and register their details. The Digital Swap Card Web



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Site checks the new collector's registration details and generates an account and profile for that collector. A collector can access and amend his personal details stored by the system by logging into his/her profile.

- 5 The cardboy 66 is designed for semi-independent use, and therefore does not need to be connected to the Internet at all times.

The digital swapping cards 1, shown in Figures 6 allows a collector to select various options for the signature layer 14.

10

The digital swapping cards 1, shown in Figures 7 allows a collector to select various options for the video and audio layer 20.

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## CLAIMS:

## 1. A trading system, including:

5 a computer device having a first communications component for connecting to removable memory media, and a second communications component for connecting to a communications network; and

a trading card device for connection to said first communication component, said trading card device including a plurality of components representing a subject, said components including an image component, a signature component and/or a video and  
10 audio component, said components having respective properties defining conditions relating to use of said components;

whereby said trading system facilitates trading of said components over said communication network.

## 15 2. A trading system, including:

a card player having a data processor and memory, and a communication component for connecting to removable memory media; and

a trading card device for connection to said first communication component, said trading card device including a plurality of components representing a subject, said  
20 components including an image component, a signature component and/or a video and audio component, said components having respective properties defining conditions relating to use of said components;

whereby said trading system facilitates trading of said components.

25 3. A trading card device for connection to a first communication component, said trading card device including a plurality of components representing a subject, said components including an image component, a signature component and/or a video and audio component, said components having respective properties defining conditions relating to use of said components.

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4. A trading card, stored on computer readable memory, representing a subject and including a plurality of layers, such as an image layer, signature layer and/or a video and audio layer, said layers having respective properties defining trading conditions relating to said trading card.

5

5. A trading card, stored on computer readable memory, representing a subject and including a plurality of layers, wherein each layer is substantially described by associated attributes and operations, said layers having respective properties defining trading conditions relating to said trading card.

10

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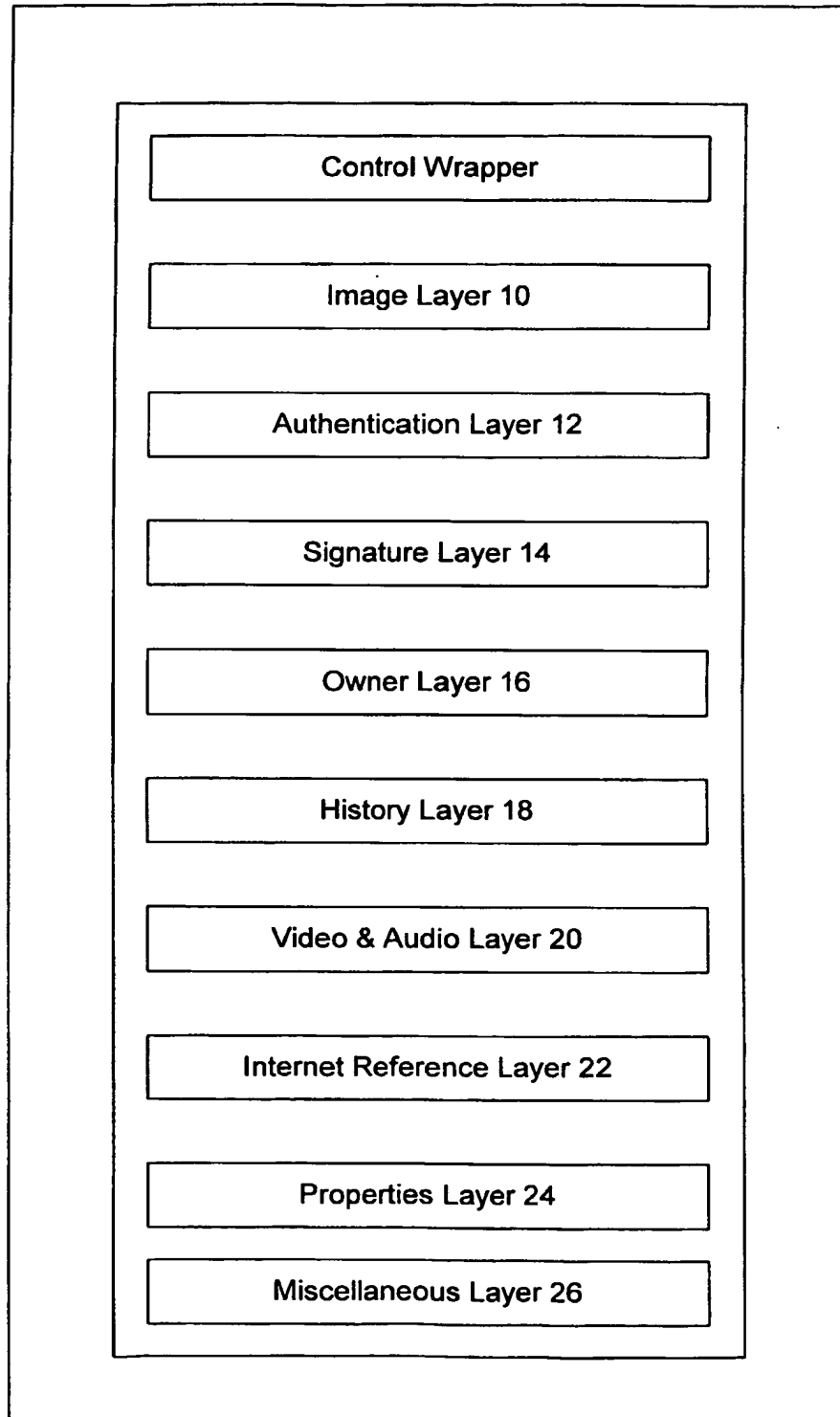


Figure 1

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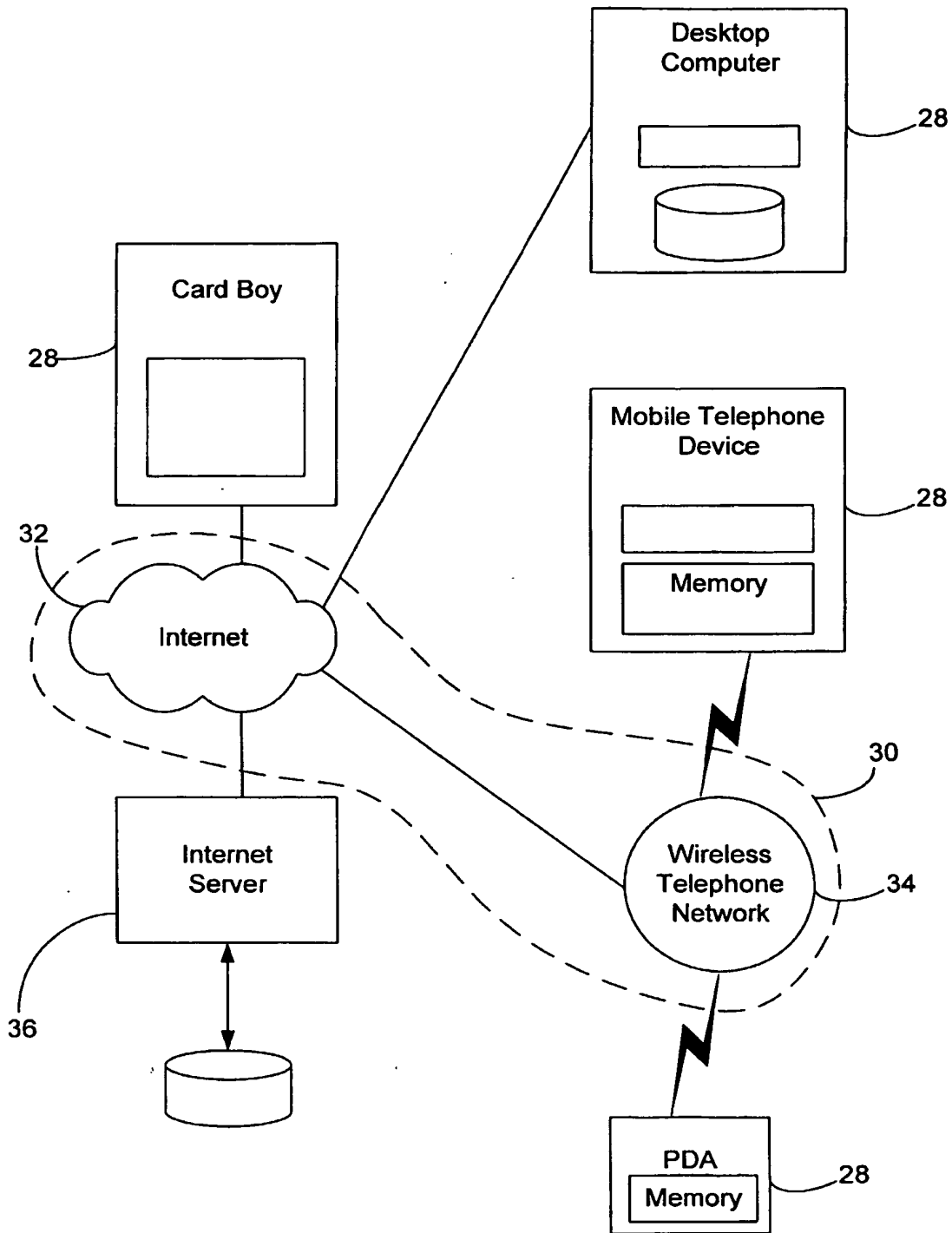


Figure 2

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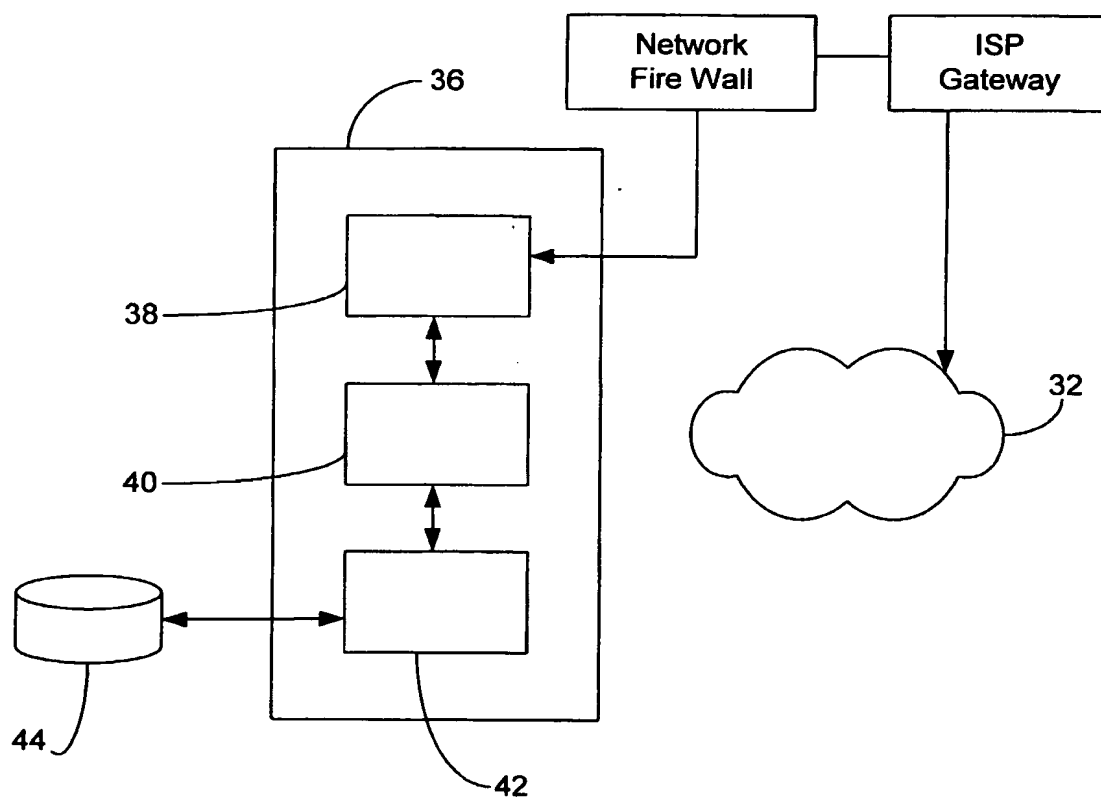
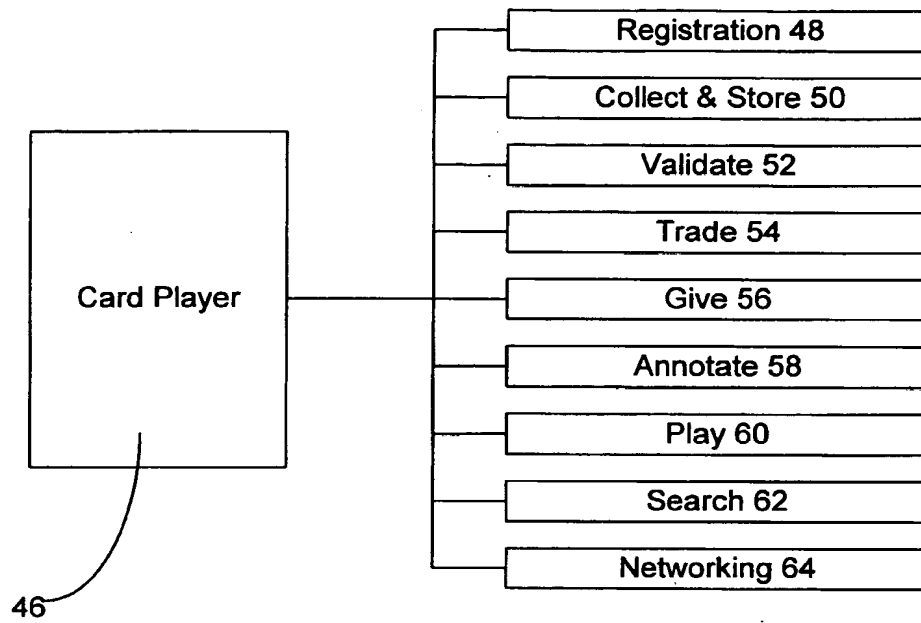


Figure 3

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**Figure 4**

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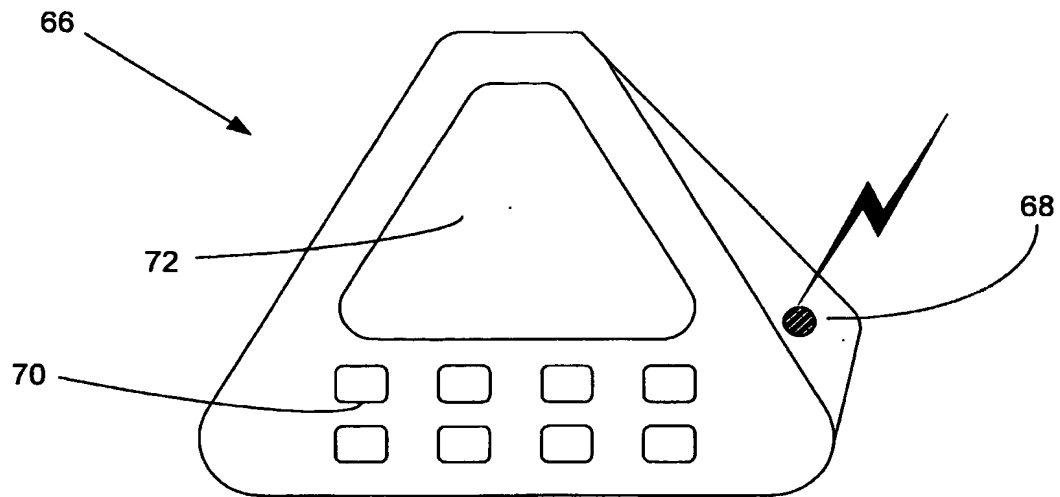


Figure 5



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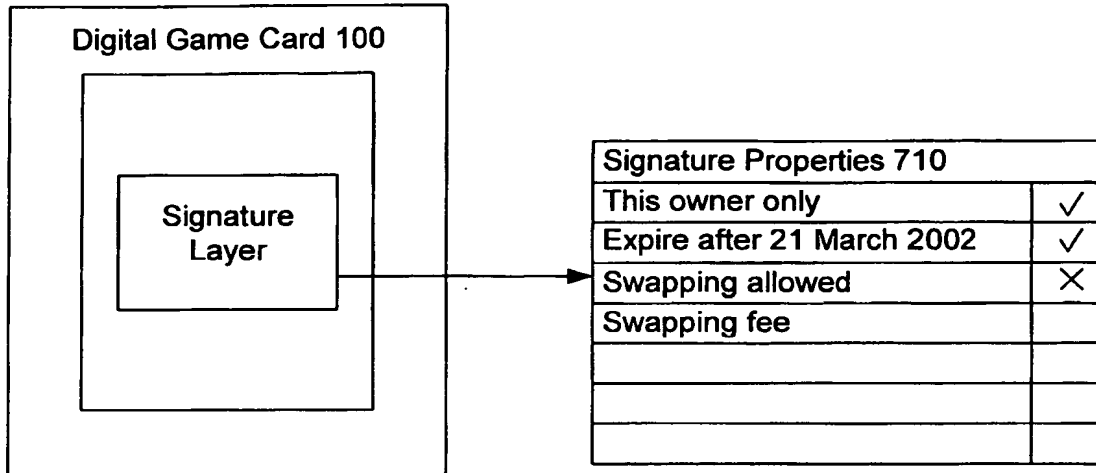


Figure 6

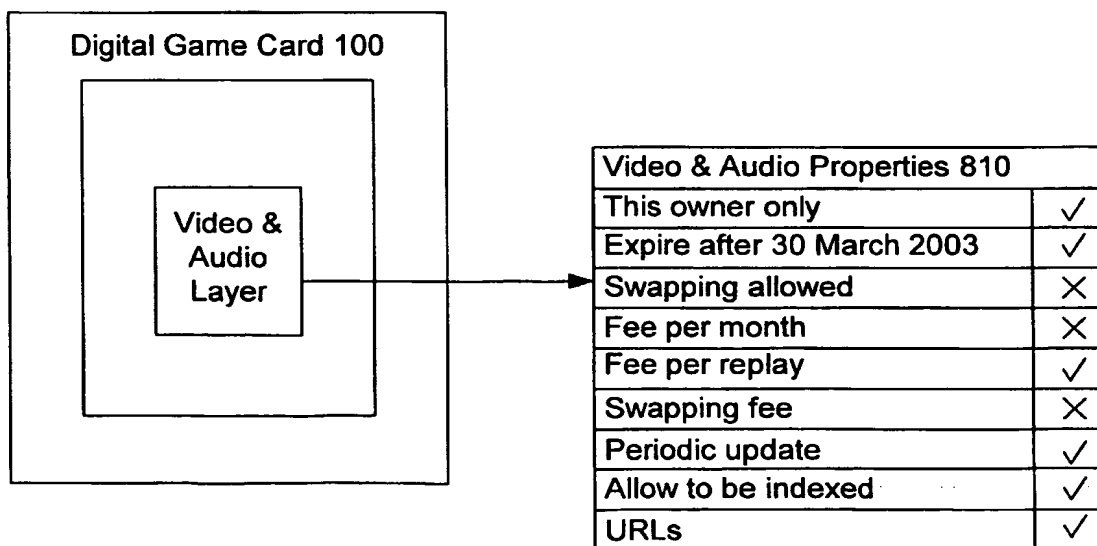


Figure 7

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU01/01668

**A. CLASSIFICATION OF SUBJECT MATTER**Int. Cl. <sup>7</sup>: G06F 19/00, 15/163, B42D 15/02

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC: G06F 19/00, 15/163

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

AU: IPC AS ABOVE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPAT, USPTO

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5748731 A (Shepherd) 5 May 1998 See whole document	1 - 5
X	JP 09-062812 A (Peppel) 7 March 1997 & US 6200216 B1 See whole document	1 - 5
X	US 6061656 A (Pace) 9 May 2000 See whole document	1 - 5

☒ Further documents are listed in the continuation of Box C ☒ See patent family annex

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Date of the actual completion of the international search 11 March 2002	Date of mailing of the international search report 22 MAR 2002
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized officer  CATHERINE REES Telephone No : (02) 6283 2811

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU01/01668

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2000/11827 A (Cyberaction, Inc.) 2 March 2000 See whole document	1 - 5
X	US 5533124 A (Smith et al.) 2 July 1996 See whole document	1 - 5

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
**PCT/AU01/01668**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report			Patent Family Member		
US	5748731	NONE			
JP	9062812	US	6200216	US	20010039206
US	6061656	US	5689561		
WO	2000/11827	AU	55769/99	EP	1104605
US	5533124	NONE			
END OF ANNEX					